



U.S. Army Corps of Engineers

Public Information Meeting Oct 29, 2003

New England District



Agenda

New England District

Introduction

Larry Rosenberg

Chief, Public Affairs, U.S. Army Corps of Engineers New England District

Review of Corps of Engineers Process To Date

Karen Adams

EIS Project Manager, U.S. Army Corps of Engineers New England District

Alternatives Screening Methodology & Sites Selected

Colonel Thomas L. Koning

District Engineer, U.S. Army Corps of Engineers New England District

Following the briefings questions from:

MTC Stakeholders

Resource Agencies

General Public

Mr. Rosenberg will moderate the Question and Answer Session

This Public Information Meeting will end promptly at noon.



Corps Public Involvement

New England District

Inclusive and includes public and any interested parties in the process of developing EIS – informed public of the permit application and identified public concerns, issues and environmental consideration for potential examination in the EIS.



Public Involvement

New England District

- Permit Application Received - November 2001
- Corps EIS Determination - December 2001
- Scoping Hearings - March 2002
- Public Information Meetings since November 2002
- Massachusetts Technology Collaborative Stakeholders Meetings
- Scoping and Public Involvement Ongoing Throughout Entire Process



New England District

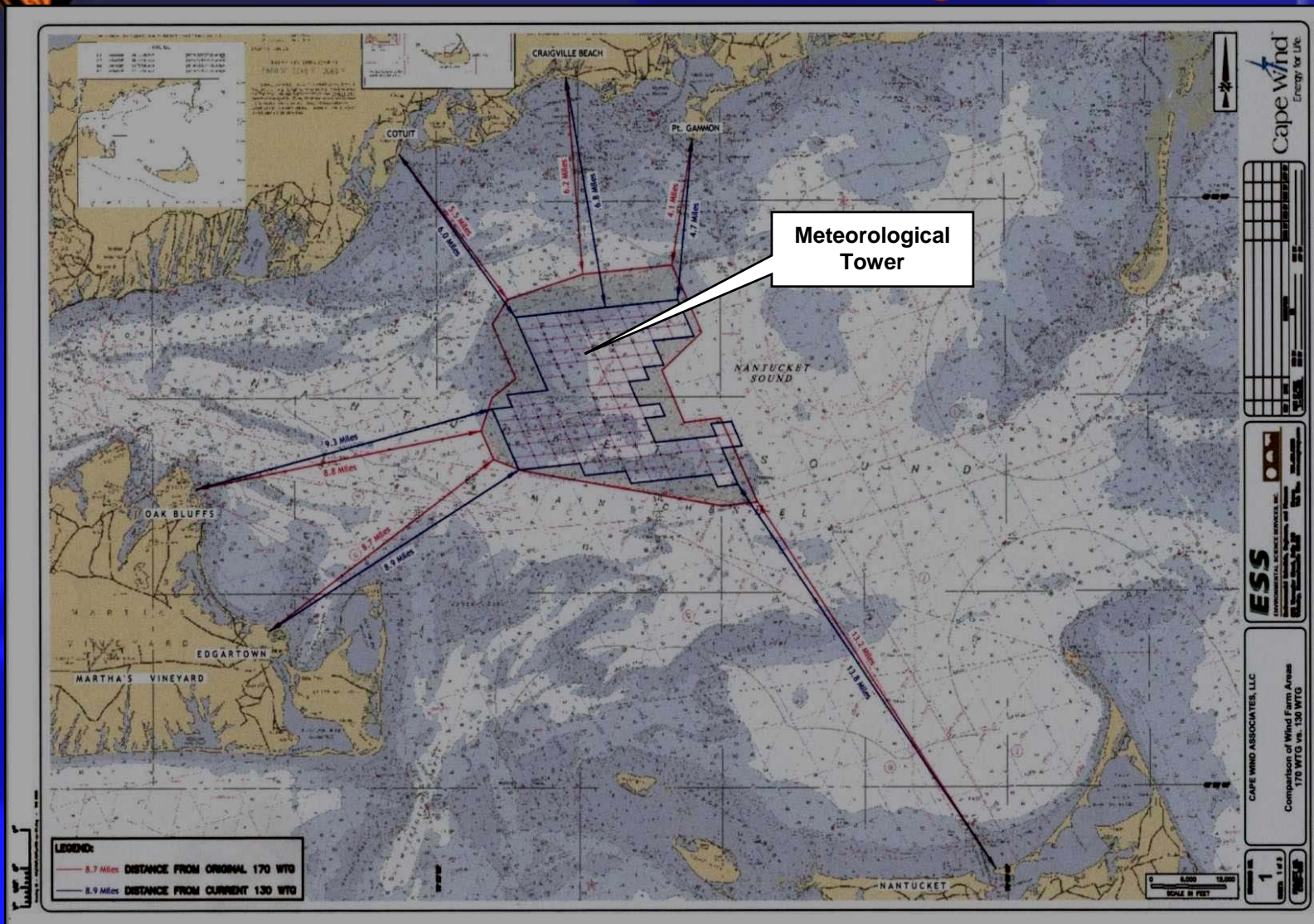
Karen Adams

EIS Project Manager
U.S. Army Corps of Engineers
New England District



Proposed Location Horseshoe Shoal, Nantucket Sound, MA

New England District





Project Purpose

New England District

- Large scale renewable energy facility providing power to the New England grid
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- Applicant proposed 420 MW facility
 - Need to identify reasonable range that can accomplish the underlying **Purpose and Need** of the project



Term Definition

New England District

- **Large Scale:** The existing merchant power plant projects in ISO-NE grid, which this project will compete with, are typically 200-1500 MW
- **Utility scale/commercial scale/merchant power plant** – terms we have previously used to try to describe the scale – not a common understanding



Site Screening Process

New England District

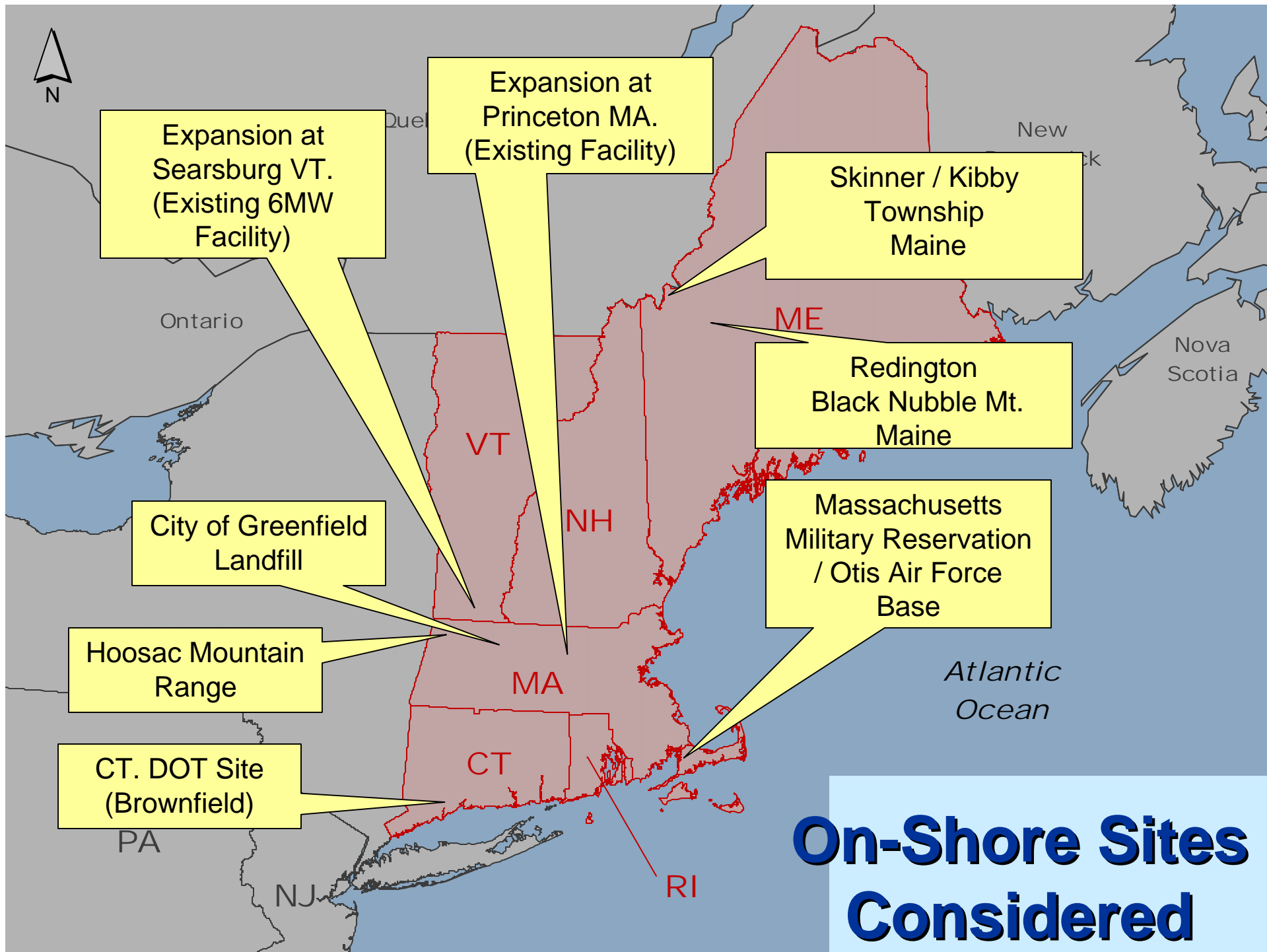
- **EIS scoping Spring 2002**
 - Sites suggested through public comment
 - Initial screening criteria in June 2002 scope
- **Start with a long list of offshore & onshore sites throughout NE**
 - Using available information screen out / eliminate sites do not warrant detailed evaluation

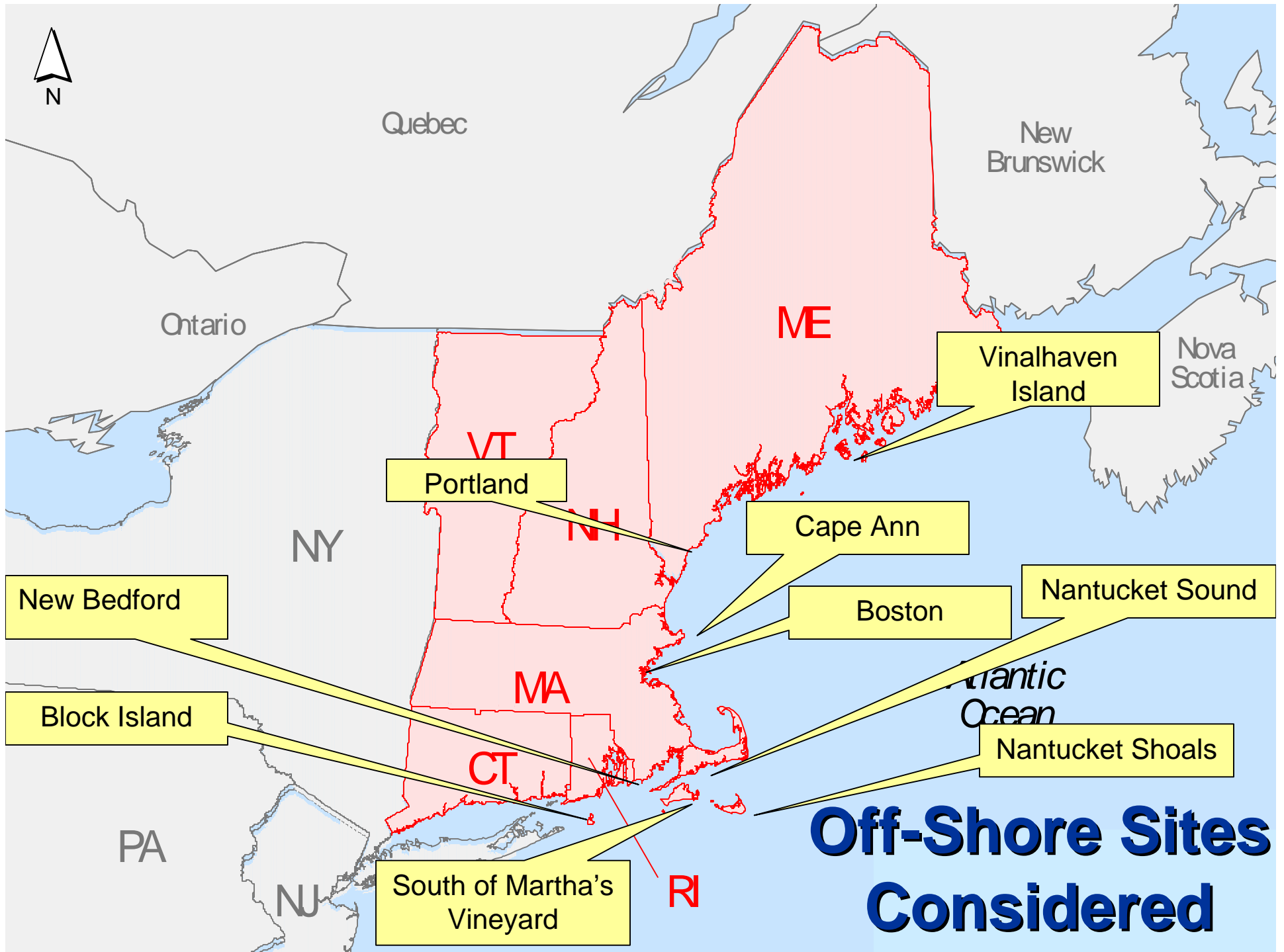


Preliminary Screening Criteria

New England District

- Sufficient surplus electric transmission capacity in the ISO-NE transmission system
- Wind Power Classification of 4 or greater (Wind speeds >15.7 mph at 50 meters)
- Available land or offshore water sheet area sufficient to accommodate a 200-1,500 MW wind energy project
- Engineering & design limitations
 - Water depths, storm waves
- Legal & regulatory constraints
 - State & federal park or conservation designation







Summary – Onshore Sites

New England District

Upland Sites	Wind Power Class	Surplus Transmission Capacity (200-1,500 MW)	Capacity based on: Available open space or ridgeline ¹	Engineering Design	Legal/Regulatory Constraints
				Physical Environment, access, distance to grid	Federal/state land or exclusions, protected areas
MMR - Mashpee, MA	3	Y	>200 MW 15,000 acres	NPL listed site, unexploded ordinances, military airspace restrictions	adjacent to state forest & wildlife management area, priority habitats of rare species, active military use
Searsburg, VT (Expansion)	4	Y	25-50 MW 3-4 miles		Green Mountain National Forest
Princeton, MA (Expansion)	2-3	Y	<10 MW <1 mile		State Reservation, Wildlife Sanctuary
Skinner/Kibby, ME (Expansion)	5	N	100-200 MW 10-20 miles	north-south transmission constraint, needs 50 miles of access road	
Redington/Black Nubble, ME	5	N	50-100 MW 5-10 miles	north-south transmission constraint	Currently under development by others
Naugatuck and Housatonic Rivers, CT (Brownfield)	2	N	<10 MW 18 acres	transmission restricted	
Greenfield, MA (Brownfield)	3	Y	<10 MW 18 acres		wetland/floodplain
Florida, MA - Hoosac Site	4	Y	25-50 MW 3-4 miles	significant amount of transmission line easement clearing, in addition to WTG sites and access roads impacting habitat loss and fragmentation	Two State Forests, Currently under development by others

1. based upon preliminary estimation of gross available area



Summary – Offshore Sites

1 of 2

New England District

Offshore Sites	Wind Power Class	Surplus Transmission Capacity (200-1,500 MW)	Capacity based on: Available Watersheet (28 mi ²)	Engineering Design	Legal/Regulatory Constraints
				Physical Environment, offshore depth/wave heights, access, AC line	Federal/state land or exclusions, protected areas
Nantucket Sound, MA - Horseshoe Shoal	5	Y	>200 MW >28 mi ²	depths < 50 feet, sheltered from open ocean exposure, ESW heights of max 17 feet	
Nantucket Sound, MA - Monomoy-Handkerchief Shoal	5	Y	>200 MW >20 mi ²	depths < 50 feet, sheltered from open ocean exposure, ESW heights of max 17 feet	proximity to Monomoy Wildlife Refuge
Nantucket Sound, MA - North Tuckernuck Shoal	5	Y	>200 MW >28 mi ²	depths < 50 feet, sheltered from open ocean exposure, ESW heights of max 17 feet	
Nantucket Shoal, MA	6	Y	>200 MW >28 mi ²	depths < 50 feet, open ocean exposure from south and east, ESW heights of appr. 65 feet, interconnection would likely require use of DC cable	whale sightings immediately south of Nantucket, high concentration of humpback whale sightings east and northeast
Martha's Vineyard, MA (south)	5	Y	>200 MW >28 mi ²	depths > 50 feet (reaching depths of over 100 feet relatively quickly), open ocean exposure to south, ESW heights of 50.2 feet, interconnection could require use of DC transmission system, unexploded ordinance near Nomans Land, entrance to Muskeget Channel	Harbor seals and/or grey seal winter haul out location (Nomans Land)
Block Island, RI (south)	3-4	N	>200 MW >28 mi ²	depths > 50 feet (reaching depths of over 100 feet relatively quickly), open ocean exposure to south, ESW heights of 50 feet, major shipping channels, seabed geology indicates abundance of boulders and rock outcroppings	High concentration of humpback whale sightings, harbor seal and/or grey seal winter haul out location

1. based upon preliminary estimation of gross available area



Summary – Offshore Sites

2 of 2

New England District

Offshore Sites	Wind Power Class	Surplus Transmission Capacity (200-1,500 MW)	Capacity based on: Available Watersheet (28 mi2)	Engineering Design	Legal/Regulatory Constraints
				Physical Environment, offshore depth/wave heights, access, AC line	Federal/state land or exclusions, protected areas
Cape Ann, MA	4	Y	>200 MW >28 mi2	depths > 100 feet, open ocean exposure from the east, ESW heights of 62 feet	Concentration of right and humpback whale sightings, harbor seal and grey seal winter haul out location
Vinalhaven Island, ME	4	N	>200 MW >28 mi2	depths > 100 feet, open ocean exposure to the east, ESW heights of 64 feet, shipping channels, seabed geology indicated shallow bedrock and outcroppings, N-S electrical transmission system constraint	Several humpback whale and fin whale sightings offshore of Maine, Harbor seal and/or grey seal winter haul out location on Isles of Shoals, ME
Inner Boston Harbor, MA	2-3	Y	<10 MW <28 mi2	Congested area with marine vessel traffic	
Outer Boston Harbor, MA	4	Y	>200 MW >28 mi2	depths > 50 feet, open ocean exposure to east, ESW heights of 75 feet, congested area with marine vessel traffic	
Outside New Bedford Harbor (Buzzards Bay), MA	4	Y	>200 MW >28 mi2	depths < 50 feet, sheltered from open ocean exposure, navigational hazard	Buzzard's Bay is part of the Cape and Island's Ocean Sanctuary
Portland, ME - Inner Harbor	2-3	N	<10 MW <28 mi2	North-south electrical transmission system constraint	
Portland, ME - Outer Harbor	4	N	>200 MW >28 mi2	North-south electrical transmission system constraint, water depths > 100 feet, open ocean exposure to the east, ESW heights of approx. 90 feet	
South of Tuckernuck Island, MA	6	Y	>200 MW >28 mi2	depths > 50 feet, open to southerly open-ocean fetch but would receive sheltering effects, crossing of the main navigational channel, ESW 51.1 ft.	

1. based upon preliminary estimation of gross available area



Comments/Issues

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- Strict or rigid application of the criteria appears to lead to a single alternative for detailed evaluation. Need to see more for comparison.
- Are there industry standards for offshore siting?
- Does criteria reflect the state of the art?



New England District

Colonel Thomas L. Koning

District Engineer

U.S. Army Corps of Engineers

New England District



Corps' Objectives

New England District

- Inclusive Process
- Guiding Principles
 - NEPA
 - Corps' Authorities and Regulations
 - » **Correct Application of the Process**
 - » **Integrity and Impartiality of the Process**
- Consultation
 - Federal, State and Local Partners
 - Peer Review
 - Contractor Support



Decisions

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- No clear standards for siting
- Screening criteria reflected “state of the art” based on constructed projects
- Pass/fail approach too rigid



NEPA Application

New England District

- **Only reasonable alternatives need to be considered in detail**, as specified in 40 CFR 1502.14(a). Reasonable alternatives must be those that are feasible and such feasibility **must focus on the accomplishment of the underlying purpose and need** that would be satisfied by the proposed Federal action (permit issuance).

(33 CFR Part 325, Appendix B, para. 9.b.5.a)



Corps' Authorities Application

New England District

■ Sec 10 – Rivers and Harbors Act

■ PIR – Public Interest Review

- (i) The relative extent of the public and private need for the proposed structure or work:
- (ii) Where there are unresolved conflicts as to resource use, the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work; and
- (iii) The extent and permanence of the beneficial and/or detrimental effects which the proposed structure or work is likely to have on the public and private uses to which the area is suited.

(33 CFR Part 320.4 (a) (2))



Public Interest Factors

New England District

Economics

Aesthetics

Wetlands

Historic Properties

Flood Hazards

Floodplain

Land Use

Navigation

Recreation

Energy Needs

Water Quality

Fish/Wildlife

Erosion

Water Supply

Food/Fiber Production

Property ownership

General Environmental Concerns

Mineral Needs

Needs & Welfare of the People



Alternatives for DEIS

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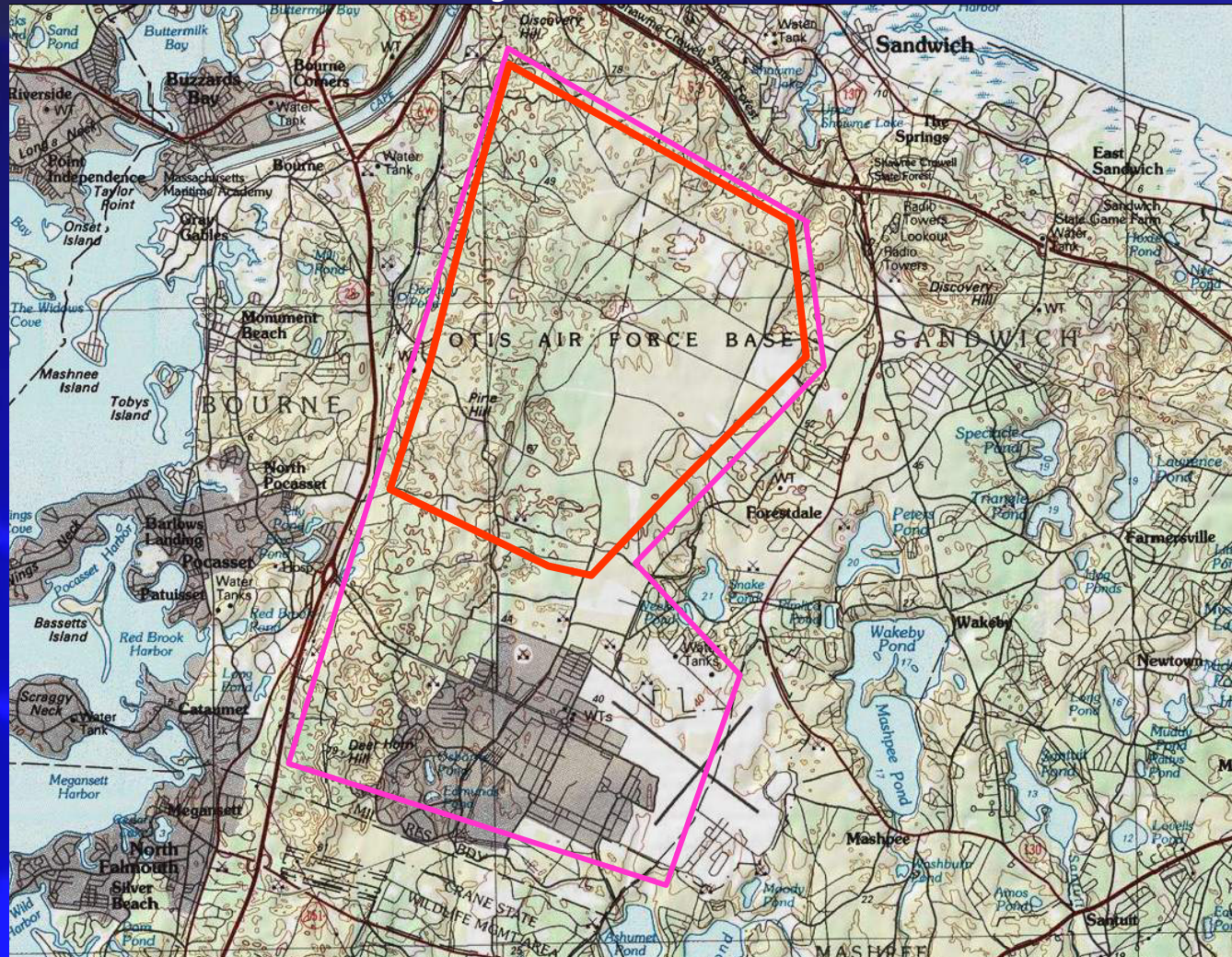
- Onshore
- Shallow water (3 sites)
- Deeper water
- 2 or more sites combined to reach at least 200 MW capacity



Onshore Alternative

New England District

Massachusetts Military Reservation, MA

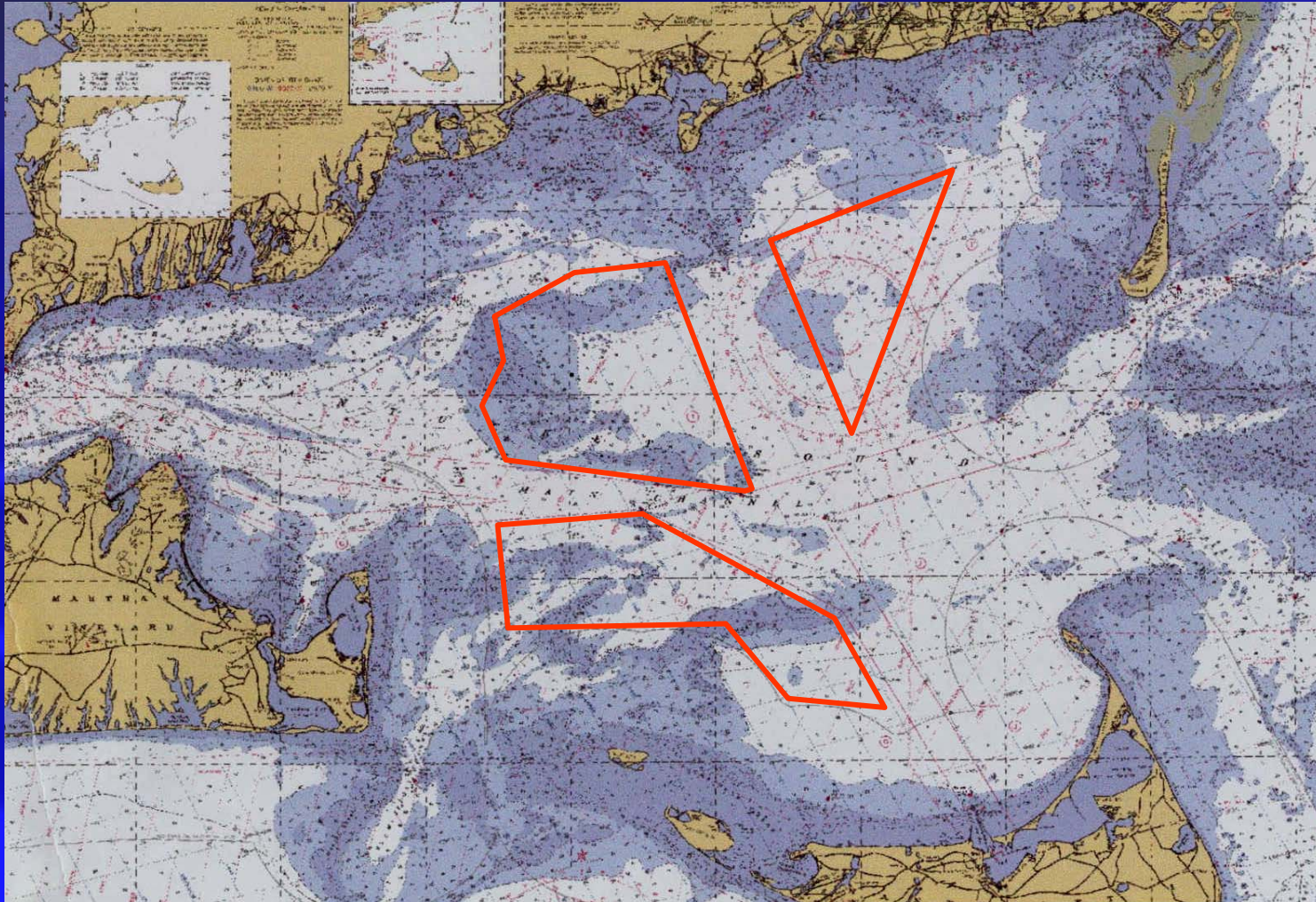




Shallow Water Alternatives

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Nantucket Sound, MA

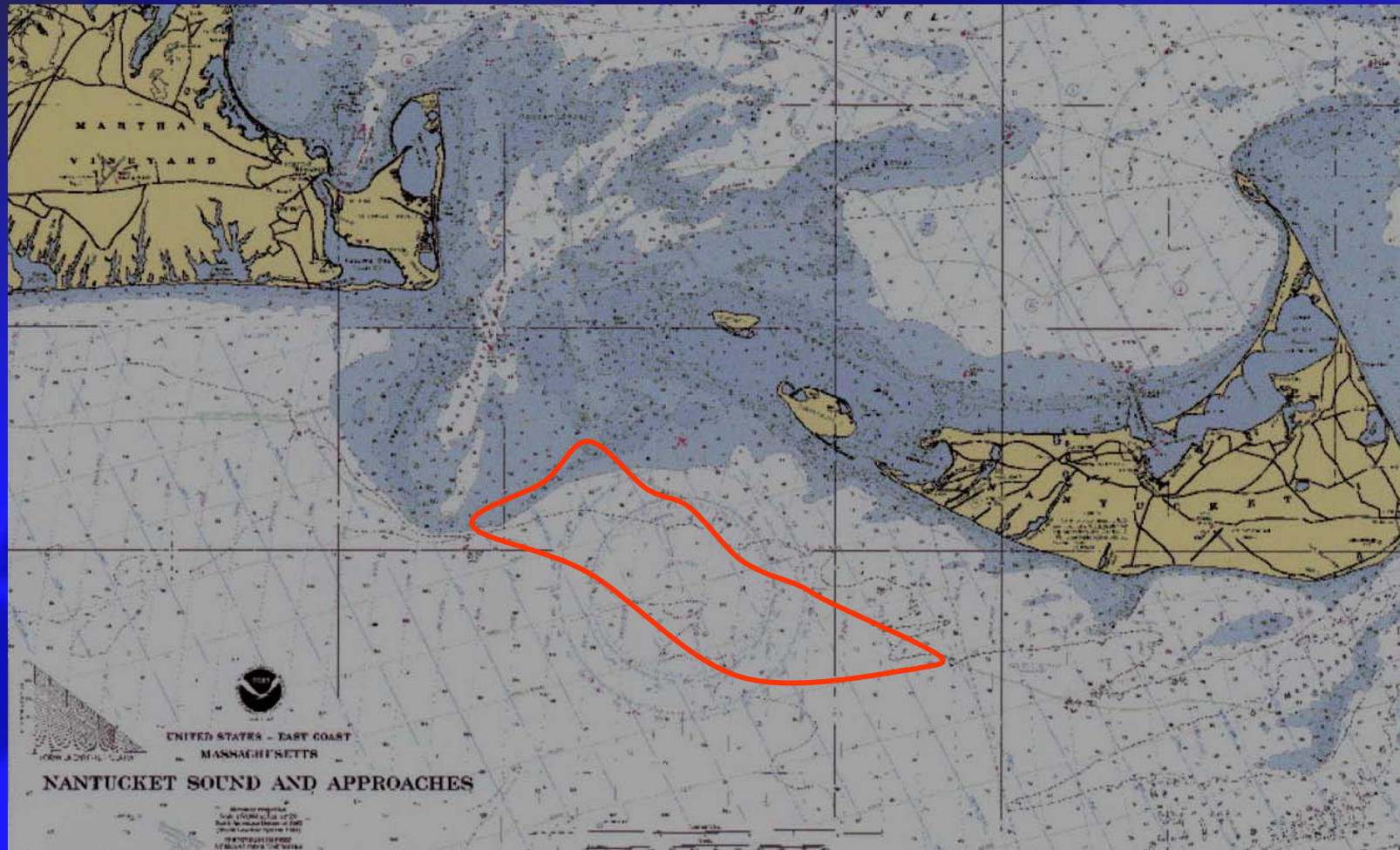




Deeper Water Alternative

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South of Tuckernuck Island, MA

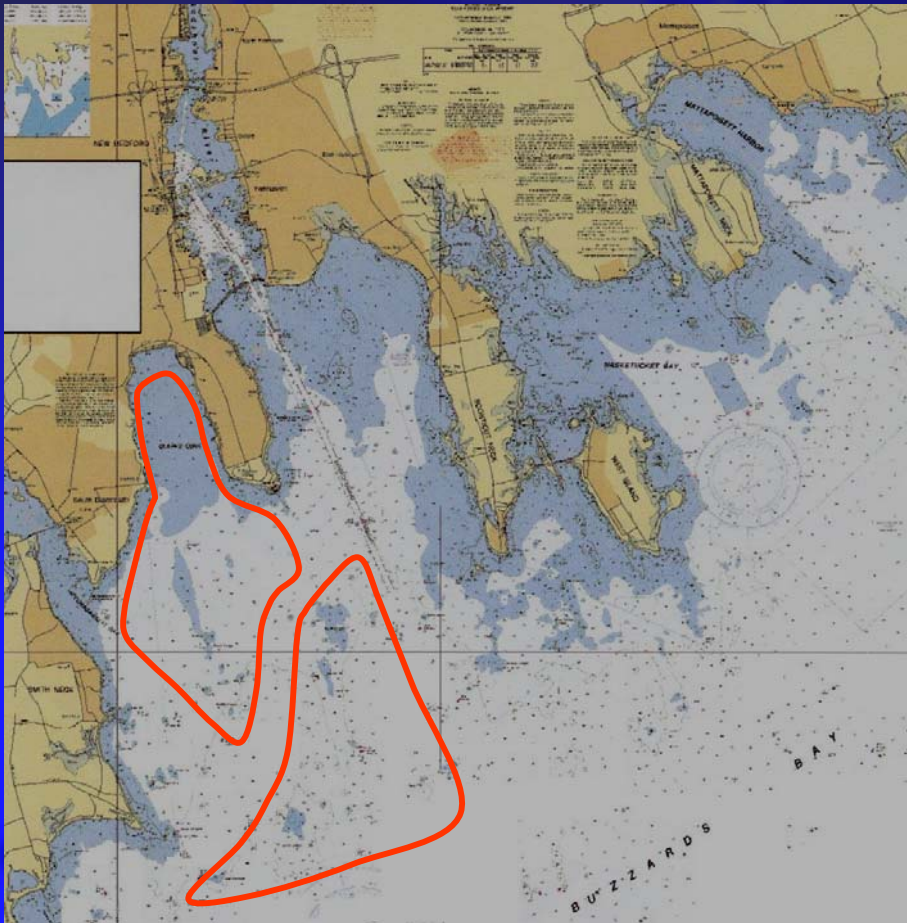




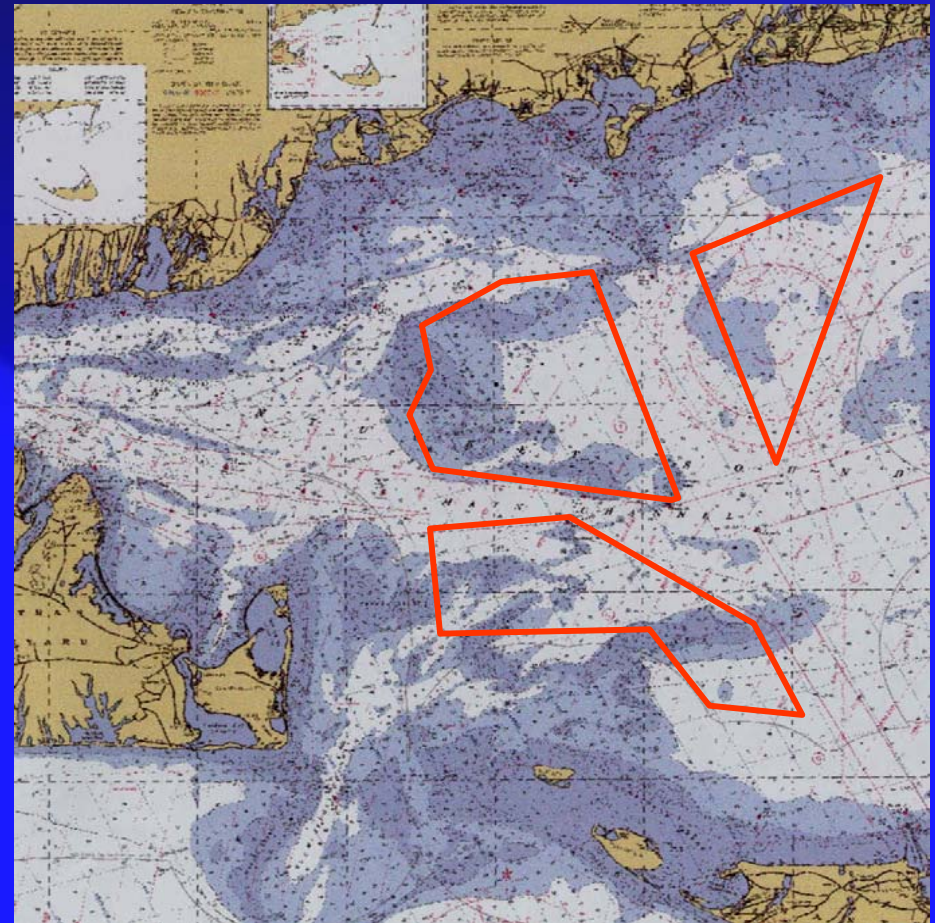
Combined Locations

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New Bedford, MA



Nantucket Sound, MA





EIS Scope

New England District

- Avian
- Marine Habitat
- Fisheries & Benthos
- Aviation
- Telecommunications
- Navigation
- Socio-economic
- Cultural/Historic properties
- Aesthetic/Landscape/Visual
- Recreation
- Noise & Vibration
- Water Quality
- Electric & Magnetic Fields
- Air & Climate
- Safety
- Engineering
- Economics

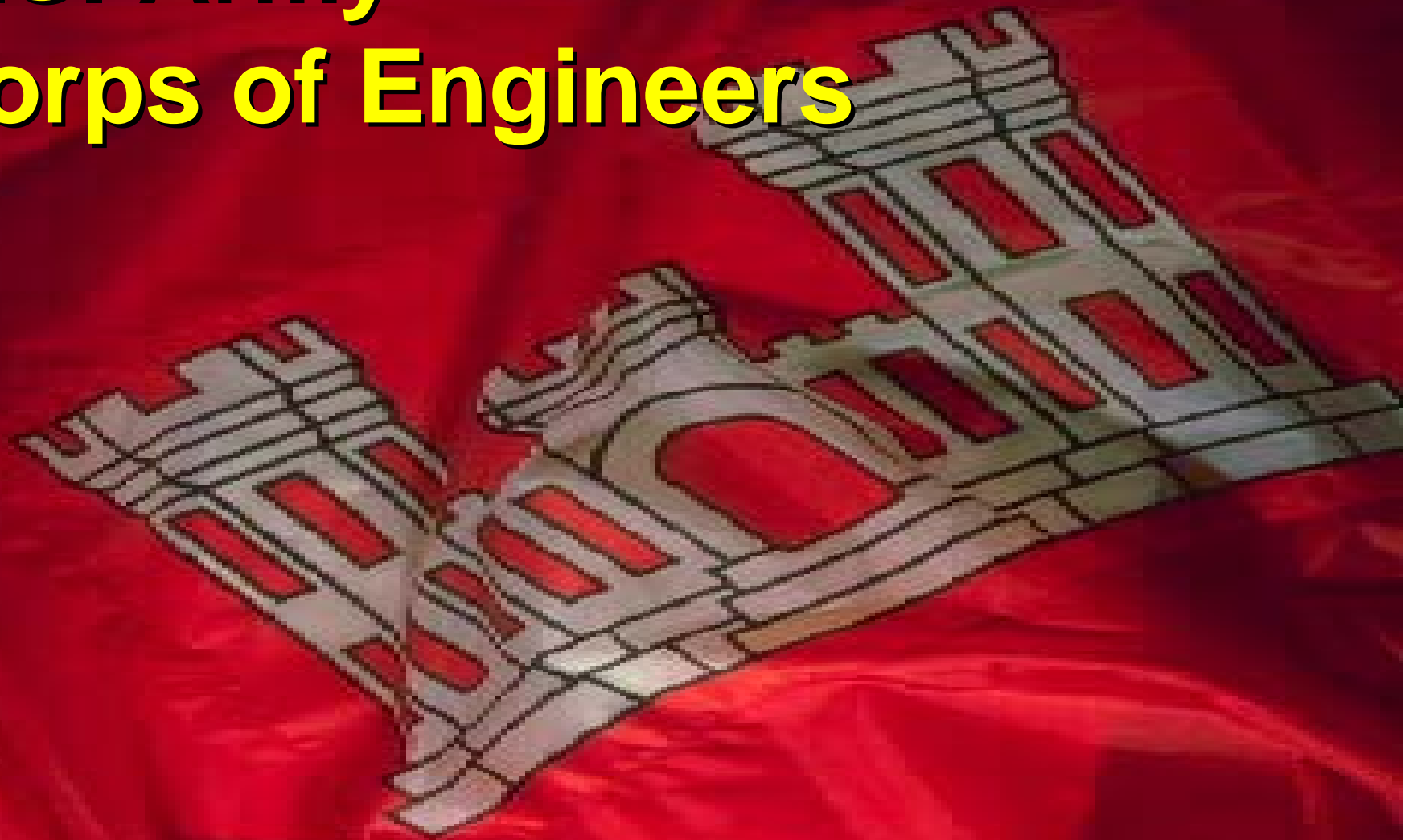


Road Ahead

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- Collect data
- Evaluate potential benefits & impacts
- Cooperating agencies review draft evaluations
- Draft EIS, hearings, comment period
- Final EIS, comment period
- Record of Decision (ROD) – PIR – issue or deny permit application

U.S. Army Corps of Engineers



New England District



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Questions

MTC Stakeholders
Resource Agencies
General Public

Mr. Rosenberg will moderate the Question and Answer Session
This Public Information Meeting will end promptly at noon.



How to Contact Us

New England District

Information:

www.nae.usace.army.mil

Comments:

wind.energy@usace.army.mil

Karen Adams

696 Virginia Road

Concord, MA 01742-2751



New England District

Back-up Slides



Peer Review

New England District

Peer Review Committee:

- **Dr. Carolyn Heeps**, Environmental Policy, Crown Estate, Great Britain
- **Mr. Daniel Zaweski**, Long Island Power Authority
- **Mr. H.J.M. (Jos) Beurskens**, Netherlands Energy Research Foundation, Energy Centre of the Netherlands
- **Dr. James F. Manwell**, Renewable Energy Research Lab, University of Massachusetts
- **Dr. Robert W. Thresher**, U.S. Department of Energy, National Renewable Energy Laboratory
- **Mr. Robert Z. Poore**, President, Global Energy Concepts, LLC



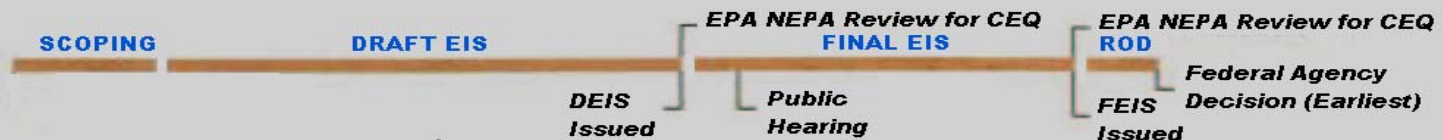
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Integrated Sequence of NEPA and the U.S. Army Corps of Engineers Regulatory Permitting Processes

CORPS PERMIT PROCESS



NEPA EIS PROCESS



↑
October 2003



PEIS

New England District

- The Corps' role in this issue is in the correct application of law and Corps Regulations as they relate to the integrity of the NEPA process.
- **At this time, the Corps will not pursue the independent execution of a Programmatic Environmental Impact Statement (PEIS) for wind energy related projects.**
- All aspects for a complete and impartial public interest determination can be served with our existing Individual Permit EIS process.
- The Corps stands by to support Congress or any of our sister federal agencies if they pursue the greater task of creating the body of policy to regulate this emerging industry.



Public Comment

New England District

“We have heard a lot of things here this evening... I think that we, as taxpayers and citizens, are relying on the Army Corps to make sure that the correct facts are taken into consideration and evaluation -- in evaluating this project.”

- Frederick Wrightson, Osterville, March 7, 2002

“I hope you look thoroughly at all the other areas where it (the Wind Farm) can be, because the affect on the Vineyard, the Cape and Nantucket will be monumental, and we'll be looking at this for our future.”

- Thomas Zinno, Oak Bluffs, April 18, 2002

“I did not realize at the early stage in the (Wind Farm) debate that almost a score of government agencies were investigating and were preparing a report on the impact of the Nantucket Sound project. My final decision on the necessity of it being located in the Sound will await that report and the results of other investigations to determine whether the Sound is the only feasible location for a wind farm in this area.”

- Walker Cronkite, August 29, 2003